

WHAT IS CLAIMED IS:

1. An adjustable resistor device, comprising:
a resistor; and
a plurality of transistors coupled to the resistor, wherein the
5 transistors are coupled in parallel and controlled by a plurality of
corresponding control signals such that each of the transistors is on either a
triode region or a cutoff region.
2. The adjustable resistor device as claimed in claim 1, wherein the
transistors are metal oxide semiconductor (MOS) transistors.
- 10 3. The adjustable resistor device as claimed in claim 2, wherein the
MOS transistors are PMOS transistors.
4. The adjustable resistor device as claimed in claim 2, wherein the
MOS transistors are NMOS transistors.
5. The adjustable resistor device as claimed in claim 2, wherein the
15 MOS transistors are CMOS transistors.
6. The adjustable resistor device as claimed in claim 1, wherein the
equivalent resistance of each of the transistor is determined by the
magnitude of the corresponding control signal.
7. The adjustable resistor device as claimed in claim 1, wherein the
20 adjustable resistor device further includes a control circuit for providing the
control signals.
8. The adjustable resistor device as claimed in claim 7, wherein the
magnitude of each of the control signals is predetermined.
9. The adjustable resistor device as claimed in claim 7, wherein the

magnitude of each of the control signals is adjustable.

10. An adjustable resistor device, comprising:

a plurality of transistors coupled in parallel and controlled by a plurality of corresponding control signals such that each of the transistors is
5 on either a triode region or a cutoff region;

wherein the equivalent resistance of the adjustable resistor device can be determined by the magnitude of each of the corresponding control signals.

11. The adjustable resistor device as claimed in claim 10, wherein
10 the adjustable resistor device further includes a control circuit for providing the control signals.

12. The adjustable resistor device as claimed in claim 11, wherein the magnitude of each of the control signals is predetermined.

13. The adjustable resistor device as claimed in claim 11, wherein
15 the magnitude of each of the control signals is adjustable.

14. The adjustable resistor device as claimed in claim 10, wherein the transistors are metal oxide semiconductor (MOS) transistors.